STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
PUBLIC NOTICE NO. 20210824 IN0001155 – D
DATE OF NOTICE: AUGUST 24, 2021
DATE RESPONSE DUE: SEPTEMBER 24, 2021

The Office of Water Quality proposes the following NPDES DRAFT PERMIT:

MAJOR– MODIFICATION

WARRICK NEWCO LLC, Permit No. IN0001155, WARRICK COUNTY, 4400 West State Road 66, Newburgh, IN. This modification is because there is a request to reopen clauses. Permit Manager: Brad Gavin, 317/234-4155, bgavin@idem.in.gov. Posted online at https://www.in.gov/idem/public-notices/.

PROCEDURES TO FILE A RESPONSE

Draft can be viewed or copied (10¢ per page) at IDEM/OWQ NPDES PS, 100 North Senate Avenue, (Rm 1203) Indianapolis, IN, 46204 (east end elevators) from 9 – 4, Mon - Fri, (except state holidays). A copy of the Draft Permit is on file at the local County Health Department. Please tell others you think would be interested in this matter. For your rights & responsibilities see: Public Notices: https://www.in.gov/idem/public-notices/; Citizen Guide: https://www.in.gov/idem/resources/citizens-guide-to-idem/. Please tell others whom you think would be interested in this matter.

Response Comments: The proposed decision to issue a permit is tentative. Interested persons are invited to submit written comments on the Draft permit. All comments must be postmarked no later than the Response Date noted to be considered in the decision to issue a Final permit. Deliver or mail all requests or comments to the attention of the Permit Writer at the above address, (mail code 65-42 PS).

To Request a Public Hearing:

Any person may request a Public Hearing. A written request must be submitted to the above address on or before the Response Date noted. The written request shall include: the name and address of the person making the request, the interest of the person making the request, persons represented by the person making the request, the reason for the request and the issues proposed for consideration at the Hearing. IDEM will determine whether to hold a Public Hearing based on the comments and the rationale for the request. Public Notice of such a Hearing will be published in at least one newspaper in the geographical area of the discharge and sent to anyone submitting written comments and/or making such request and whose name is on the mailing list at least 30 days prior to the Hearing.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Bruno Pigott
Commissioner

August 24, 2021

VIA ELECTRONIC MAIL

Mr. Robert B. Marrs
Warrick Newco LLC
PO Box 10
4400 W State Road 66
Newburgh, IN 47629
E-mail: Robert.Marrs@alcoa.com

Dear Mr. Marrs;

Re: NPDES Permit No. IN0001155
Draft Permit Modification
Warrick Newco LLC
Newburgh, IN – Warrick County

Your request for a permit modification has been reviewed and processed in accordance with rules adopted under 327 IAC 5. Enclosed is a copy of the draft permit modification.

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at https://www.in.gov/idem/public-notices/. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at https://www.in.gov/idem/resources/citizens-guide-to-idem/ A 30-day comment period is available to solicit input from interested parties, including the public.

Please review this draft permit modification and associated documents carefully to become familiar with the proposed terms and conditions. Comments concerning the draft permit modification should be submitted in accordance with the procedure outlined in the enclosed public notice form. We suggest that you meet with us to discuss major concerns or objections you may have with the draft permit modification. Questions concerning this draft permit modification may be addressed to Brad Gavin, at 317-234-4155 or bgavin@idem.in.gov.

Sincerely,

Nikki Gardner

Nikki Gardner, Chief
Industrial NPDES Permits Section
Office of Water Quality

Enclosures

cc: Warrick County Health Department
Tom Shaw; Thomas.shaw@alcoa.com
Holly Zurcher, IDEM Inspector
Chief, Permits Section, U.S. EPA, Region 5
Stacey Cochran, ORSANCO

STATE OF INDIANA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 *et seq*., the "Clean Water Act" or “CWA” ”), and IDEM’s authority under IC 13-15,

WARRICK NEWCO LLC

is authorized to discharge from an aluminum processing plant and steam generating facility that is located at 4400 West State Road 66, Newburgh, Indiana to receiving waters identified as the Ohio River and unnamed tributaries to Cypress Creek in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, and IV hereof.

The permit, as issued on December 20, 2018 is hereby amended, as contained herein. The amended provisions shall become effective _____. All terms and conditions of the permit not modified at this time remain in effect. Further, any existing condition or term affected by the amendments will remain in effect until the amended provisions become effective. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

This permit and the authorization to discharge, as amended, shall expire at midnight December 31, 2023. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Issued on _____ for the Indiana Department of Environmental Management.

_____
Jerry Dittmer, Chief
Permits Branch
Office of Water Quality

6. The permittee is authorized to discharge from **Outfall 303** (located at Latitude and Longitude: DMS 37°55'21.7”N, 87°20'12.1”W; DEC 37.92269,-87.33669) in accordance with the terms and conditions of this permit.

   The discharge is limited to a combination of wastewater and stormwater from the Smelting Plant, Ingot Plant, Rolling Plant, Fabrication Plant, and support areas; treated wastewater from the Finishing Wastewater Treatment Facility (Bldg. 879) Spent Acid Treatment; treated wastewater from the Finishing Wastewater Treatment Facility (Bldg. 879) Spent Wash and Water-Based Coating Solution Treatment; treated wastewater from the Rolling Wastewater Treatment Facility (Bldg. 871E Oily Wastewater Treatment); incidental amounts of untreated or partially treated Bldg. 879 wash wastewater from various maintenance activities or foaming conditions; untreated or partially treated oily wastewater from the 871E oily wastewater treatment plant from various maintenance activities; wastewaters from vacuum trucks used to transfer compatible wastewater streams for treatment within the various wastewater treatment facilities; evaporator blowdown from the Bldg. 310 steam plant; water softener backwash; emergency cooling water for air compressor Bldg. 311; contact cooling water from the fan houses at the rectifiers; blowdown from the ingot casting cooling water system; wastewater discharged from the roll caster units; water from the vaporizers at the chlorine house; deionized water system backwash; cooling water from the Ingot preheat furnaces; cooling water from the scalper; DI quench water at the coil coating lines; wastewater from the cleaning of work rolls within the Finishing Department; coatings (only if the contaminants associated with these insignificant discharges are monitored at Outfall 303 and/or Outfall 003); material testing rinse water; water and wastewater from the steam and high temperature water systems; other miscellaneous contact and non-contact cooling water; cooling tower blowdown and emergency overflows; wash water consisting of potable water used to wash down cooling tower screens; HVAC condensate; stormwater runoff; stormwater from secondary containment systems (either uncontaminated or treated); uncontaminated water from building foundation drainage; treated contaminated groundwater (treated in the finishing wastewater treatment (bldg. 879) spent acid treatment system) from an onsite remediation project; treated contaminated groundwater from excavation and remediation projects, and various maintenance activities containing biodegradable organic materials and wastewaters; wastewater from associated shops and support services; vehicle wash water (which may contain insignificant amounts of biodegradable, phosphate-free[10], detergents); and discharges from Internal Outfall 203 and stormwater runoff from the contractor laydown area.

   Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to mixing with other wastewater streams contributing to Outfall 003. Such discharge shall be limited and monitored by the permittee as specified below:

Internal Outfall 303

DISCHARGE LIMITATIONS [1][2][3]

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow [5][6]	Report	Report	MGD	-------	-------	------	Continuous	24 Hr. Total
Oil & Grease [4][5]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	Grab
Total Suspended Solids (TSS) [4][5]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Aluminum [4][5][6][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Antimony [4][5][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Bromide [6]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Total Residual Chlorine [9]	-------	-------	------	Report	Report	mg/l	3 X Weekly	Grab
Total Chromium [4][5][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Copper [6][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Total Cyanide [4][5][8]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp
Fluoride [4][5][6]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Nickel [4][5][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Manganese [6][7]	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Zinc [4][5][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease-Dredging [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	Grab
TSS-Dredging [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Aluminum-Dredging [4][6][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Antimony-Dredging [4][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Total Chromium-Dredging [4][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Total Cyanide-Dredging [4][8]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Fluoride-Dredging [4][6]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Nickel-Dredging [4][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Zinc Dredging [4][7]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.

Table 2 (Current pH Limits)[11]

	Quality or Concentration			Monitoring Requirements	
Parameter	Daily Minimum	Daily Maximum	Units	Measurement Frequency	Sample Type
pH	7.0	9.0	s.u.	2 X Weekly	Grab

Table 3 (pH Limits Effective Upon Notification)[11]

	Quality or Concentration			Monitoring Requirements	
Parameter	Daily Minimum	Daily Maximum	Units	Measurement Frequency	Sample Type
pH	6.0	9.0	s.u.	2 X Weekly	Grab

[1] Samples taken at Internal Outfall 303 must be representative of the process wastewater discharge. The permittee should take all reasonable measures to take samples when the wastewater discharge does not contain contributions from storm events.

[2] In the event that changes are to be made in the use of water treatment additives, including dosage, or a new water treatment additive is to be used that will contribute to Outfall 303, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality

standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: http://www.in.gov/idem/5157.htm

[3] The Storm Water Monitoring and Non-Numeric Effluent Limits and the Storm Water Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.

[4] For the annotated parameters, while dredging the Discharge Pool, the permittee is required to follow the sampling schedule, but the data for the annotated parameters should not be used in calculating the monthly average and daily maximum values applicable for these parameters when dredging is not occurring (normal operations). Also, the data should not be used in the calculations used to determine compliance at Outfall 603. However, the data collected during dredging shall be used in the calculations used for compliance with requirements at Outfall 003. The dredging operations associated with Outfall 303 is considered an operation and maintenance activity that is necessary for achieving compliance with the terms and conditions of the permit.

The permittee must provide written notification to the NPDES Industrial Permit Section at least thirty (30) days prior to the start of the maintenance dredging operations, and written notification upon conclusion of the dredging project. The prior notification should include a general explanation of the work to be performed, the pond or area that is being dredged and the length of time the dredging will occur. If relocation of a sampling point is required the permittee must first receive written approval from the NPDES Industrial Permit Section. These notifications shall be submitted to IDEM-OWQ at OWQWWPER@idem.in.gov.

[5] The data collected for these parameters (along with the data collected at Outfall 403) are used in the calculations used to determine compliance with requirements at Outfall 603.

[6] The data collected for these parameters (along with the data collected at Outfall 103) are used in the calculations used to determine compliance with requirements at Outfall 003.

[7] The permittee shall measure and report identified metals as total recoverable metals.

[8] The maximum holding time for cyanide (CN) is twenty-four (24) hours when sulfide is present and fourteen (14) days when sulfide is absent, according to 40 CFR 136.3, Table IB. Therefore, CN is to be monitored by collecting a representative grab sample and analyzing it within 24 hours. Alternatively, if the permittee can demonstrate the wastewater contains no sulfide, the permittee may collect a composite and analyze it within fourteen (14) days.

[9] The data collected for total residual chlorine at this outfall (along with the data collected at Outfall 103) are used in the calculations used to determine compliance with requirements at Outfall 003. The water quality-based effluent limitations for total residual chlorine at Outfall 003 are less than the limit of quantitation (LOQ) as specified below. If the measured concentration of total residual chlorine at this outfall is greater than the respective limit of detection (LOD) specified in the table below in

any three (3) consecutive analyses, or any five (5) out of nine (9) analyses, then the discharger shall:

(1) Determine the source of the parameter through an evaluation of sampling techniques, analytical/laboratory procedures, and waste streams (including internal waste streams).

(2) The sampling and analysis for total residual chlorine (TRC) at both Outfalls 103 and 303 (and reporting at Outfall 003) shall be increased to 4 X Weekly and remain at this increased sampling frequency until:

(a) The increased sampling frequency for TRC has been in place for at least two weeks;

(b) At least nine (9) samples have been taken under this increased sampling frequency; and

(c) The measured concentration of TRC is less than the LOD specified in the table below in at least seven (7) out of the nine (9) most recent analyses.

(3) The following EPA test methods and/or Standard Methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM.

Parameter	Test Method	LOD	LOQ
Chlorine	4500-Cl-D-2000,E-2000 or G-2000	0.02 mg/l	0.06 mg/l

Case-Specific LOD/LOQ: The permittee may determine a case-specific LOD or LOQ using the analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

[10] A schedule of compliance, providing the permittee up to eighteen (18) months to comply with the phosphate-free detergent requirement (See outfall description on page 16) is provided in Part I.G. of this permit.

[11] The permittee is in the process of installing pH monitoring equipment at different locations at both Outfall 303 and 403. Until such time this installation has been completed and the permittee notifies IDEM of its completion, the pH limits in Table 2, above, are applicable at this Outfall.

After this installation has been completed and the permittee notifies IDEM of its completion, the pH limits in Table 3, above, will be applicable. Compliance with the Table 3 pH limits is demonstrated by monitoring at the following upstream source.

Ingot casting cooling water system blowdown

Samples must be representative of the process wastewater discharge from this source prior to comingling with any other wastewater streams contributing to Outfall 303.

7. The permittee is authorized to discharge from **Outfall 403** (located at Latitude and Longitude: DMS 37°55'09.9”N,87°20'06.7”W; DEC 37.91942,-87.33519) in accordance with the terms and conditions of this permit.

   The discharge is limited to a combination of wastewater and stormwater from the Smelting Plant, Ingot Plant, Rolling Plant, Fabrication Plant, and support areas; treated wastewater from the Finishing Wastewater Treatment Facility (Bldg. 879) Spent Acid Treatment; treated wastewater from the Finishing Wastewater Treatment Facility (Bldg. 879) Spent Wash and Water-Based Coating Solution Treatment; treated wastewater from the Rolling Wastewater Treatment Facility (Bldg. 871E Oily Wastewater Treatment; incidental amounts of untreated or partially treated Bldg. 879 wash wastewater from various maintenance activities or foaming conditions; untreated or partially treated oily wastewater from the 871E oily wastewater treatment plant from various maintenance activities; wastewaters from vacuum trucks used to transfer compatible wastewater streams for treatment within the various wastewater treatment facilities; evaporator blowdown from the Bldg. 310 steam plant; water softener backwash; emergency cooling water for air compressor Bldg. 311; contact cooling water from the fan houses at the rectifiers; blowdown from the ingot casting cooling water system; wastewater discharged from the roll caster units; water from the vaporizers at the chlorine house; deionized water system backwash; cooling water from the Ingot preheat furnaces; cooling water from the scalper; DI quench water at the coil coating lines; wastewater from the cleaning of work rolls within the Finishing Department; coatings (only if the contaminants associated with these insignificant discharges are monitored at Outfall 303 and/or Outfall 003); material testing rinse water; water and wastewater from the steam and high temperature water systems; other miscellaneous contact and non-contact cooling water; cooling tower blowdown and emergency overflows; wash water consisting of potable water used to wash down cooling tower screens; HVAC condensate; stormwater runoff; stormwater from secondary containment systems (either uncontaminated or treated); uncontaminated water from building foundation drainage; treated contaminated groundwater (treated in the finishing wastewater treatment (bldg. 879) spent acid treatment system) from an onsite remediation project; treated contaminated groundwater from excavation and remediation projects, and various maintenance activities containing biodegradable organic materials and wastewaters; vehicle wash water (which may contain insignificant amounts of biodegradable, phosphate-free[6], detergents); and wastewater from associated shops and support services.

   Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge (sampled at intake to the flue gas desulfurization scrubber from the stormwater pond). Such discharge shall be limited and monitored by the permittee as below:

Internal Outfall 403

DISCHARGE LIMITATIONS [1][2][3]

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	-------	-------	------	Continuous	24 Hr. Total
Oil & Grease	Report	Report	lbs/day	-------	-------	------	2 X Weekly	Grab
Total Suspended Solids (TSS)	Report	Report	lbs/day	-------	-------	------	2 X Weekly	24-Hr. Comp.
Aluminum [4]	Report	Report	lbs/day	-------	-------	------	2 X Weekly	24-Hr. Comp.
Antimony [4]	Report	Report	lbs/day	-------	-------	------	2 X Weekly	24-Hr. Comp.
Total Chromium [4]	Report	Report	lbs/day	-------	-------	------	2 X Weekly	24-Hr. Comp.
Total Cyanide [5]	Report	Report	lbs/day	-------	-------	------	2 X Weekly	24-Hr. Comp.
Fluoride	Report	Report	lbs/day	-------	-------	------	2 X Weekly	24-Hr. Comp.
Nickel [4]	Report	Report	lbs/day	-------	-------	------	2 X Weekly	24-Hr. Comp.
Zinc [4]	Report	Report	lbs/day	-------	-------	------	2 X Weekly	24-Hr. Comp.

Table 2 (Current pH Limits)[7]

	Quality or Concentration			Monitoring Requirements	
Parameter	Daily Minimum	Daily Maximum	Units	Measurement Frequency	Sample Type
pH	7.0	9.0	s.u.	2 X Weekly	Grab

Table 3 (pH Limits Effective Upon Notification)[7]

	Quality or Concentration			Monitoring Requirements	
Parameter	Daily Minimum	Daily Maximum	Units	Measurement Frequency	Sample Type
pH	7.0	10.0	s.u.	2 X Weekly	Grab

[1] Samples taken at Internal Outfall 403 must be representative of the process wastewater discharge. The permittee should take all reasonable measures to take samples when the wastewater discharge does not contain contributions from storm events. The data collected at this outfall (along with the data collected at Outfall 303) are used in the calculations used to determine compliance with requirements at Outfall 603.

[2] In the event that changes are to be made in the use of water treatment additives, including dosage, or a new water treatment additive is to be used that will contribute to Outfall 403, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: http://www.in.gov/idem/5157.htm.

[3] The Storm Water Monitoring and Non-Numeric Effluent Limits and the Storm Water Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.

[4] The permittee shall measure and report identified metals as total recoverable metals.

[5] The maximum holding time for cyanide (CN) is twenty-four (24) hours when sulfide is present and fourteen (14) days when sulfide is absent, according to 40 CFR 136.3, Table IB. Therefore, CN is to be monitored by collecting a representative grab sample and analyzing it within 24 hours. Alternatively, if the permittee can demonstrate the wastewater contains no sulfide, the permittee may collect a composite and analyze it within fourteen (14) days.

[6] A schedule of compliance providing the permittee up to eighteen (18) months to comply with the phosphate-free detergent requirement (See outfall description on page 20) is provided in Part I.G. of this permit.

[7] The permittee is in the process of installing pH monitoring equipment at different locations at both Outfall 303 and 403. Until such time this installation has been completed and the permittee notifies IDEM of its completion, the pH limits in Table 2, above, are applicable at this Outfall.

After this installation has been completed and the permittee notifies IDEM of its completion, the pH limits in Table 3, above, will be applicable. Compliance with the pH limits at this Outfall is demonstrated by monitoring at the upstream sources and meeting the pH limits at each of these upstream sources as detailed in Table 4, below. At each of these sources, the samples taken must be representative of the process wastewater discharge from the source prior to comingling with any other wastewater streams contributing to Outfall 403.

Table 4

	Quality or Concentration			Monitoring Requirements	
Upstream Source	Daily Minimum	Daily Maximum	Units	Measurement Frequency	Sample Type
Building 871E Wastewater Treatment Facility effluent	7.0	10.0	s.u.	2 X Weekly	Grab
Building 879 Combined Spent Wash Treatment Facility effluent and Water-Based Coating Solution Treatment Facility effluent	7.0	10.0	s.u.	2 X Weekly	Grab

On the DMR, the permittee must report the high and low pH values and exceedances for each of the two above upstream source locations. On the MMR, the permittee must report the pH results for each of the two above upstream source locations.

13. The permittee is authorized to discharge from **Outfall 006S** (located at Latitude and Longitude: DMS 37°55'31.4"N, 87°19'22.8"W; DEC 37.92539,-87.323) in accordance with the terms and conditions of this permit. The discharge is limited to a combination of stormwater runoff from the cold rolling operations area; uncontaminated storm water from secondary containments in the cold rolling operations area; incidental amounts of water from the 816C2 and 816C3 cooling towers due to spills, leaks, or equipment malfunction (low flow, infrequent occurrence); and wash water consisting of potable water used to wash down cooling tower screens (low flow, intermittent occurrence). Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the unnamed tributary to Cypress Creek. Such discharge shall be limited and monitored by the permittee as specified below:

Outfall 006S

DISCHARGE LIMITATIONS [1][2][3][4]

				Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	-------	Report	MGD	Quarterly [5]	Estimate Total
pH	-------	Report	s.u.	Annually	Grab
Oil & Grease	-------	Report	mg/l	Quarterly [5]	Grab
Total Suspended Solids (TSS)	-------	Report	mg/l	Quarterly [5]	Grab
$CBOD_5$	-------	Report	mg/l	Annually	Grab
COD	-------	Report	mg/l	Annually	Grab
Aluminum [6]	-------	Report	mg/l	Quarterly [5]	Grab
Total Residual Chlorine [7][8]					
Interim	Report	Report	mg/l	2 X Monthly	Grab
Final	0.016	0.038	mg/l	2 X Monthly	Grab
Total Kjeldahl Nitrogen	-------	Report	mg/l	Annually	Grab
Nitrate/nitrite (as N)	-------	Report	mg/l	Annually	Grab
Total Phosphorus	-------	Report	mg/l	Annually	Grab

[1] See Part I.B. of the permit for the Narrative Water Quality Limitations.

[2] In the event that changes are to be made in the use of water treatment additives, including dosage, or a new water treatment additive is to be used that will contribute to Outfall 006S, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: http://www.in.gov/idem/5157.htm.

[3] The Storm Water Monitoring and Non-Numeric Effluent Limits and the Storm Water Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.

[4] With the exception of the samples taken for total residual chlorine (see Footnote [7], below) all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. There shall be a minimum of three (3) months between reported sampling events for the parameters that are reported on an annual basis.

For each sample taken, the permittee shall record the duration and total rainfall of the storm event, the number of hours between beginning of the storm measured and the end of the previous measurable rain event, and the outside temperature at the time of sampling.

A grab sample shall be taken during the first thirty (30) minutes of the discharge (or as soon thereafter as practicable).

[5] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[6] The permittee shall measure and report the identified metal in total recoverable form.

[7] The Final limits and monitoring requirements for total residual chlorine are effective six (6) months after the effective date of this permit modification. Until these Final limits are effective, the Interim requirements are in effect. The samples for total residual chlorine shall be taken, if possible, when storm water is not contributing to the discharge through this outfall.

[8] The water quality-based effluent limitations for total residual chlorine are less than the limit of quantitation (LOQ) as specified below. If the measured concentration of total residual chlorine at this outfall is greater than the respective limit of detection (LOD) specified in the table below in any three (3) consecutive analyses, or any five (5) out of nine (9) analyses, then the discharger shall:

(1) Determine the source of the parameter through an evaluation of sampling techniques, analytical/laboratory procedures, and waste streams (including internal waste streams).

(2) The sampling and analysis for total residual chlorine (TRC) shall be increased to weekly and remain at this increased sampling frequency until:

(a) The increased sampling frequency for TRC has been in place for at least six weeks;

(b) At least nine (9) samples have been taken under this increased sampling frequency; and

(c) The measured concentration of TRC is less than the LOD specified in the table below in at least seven (7) out of the nine (9) most recent analyses.

(3) The following test methods and associated LOD and LOQ are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM.

Parameter	Test Method	LOD	LOQ
Chlorine	4500-Cl-D-2000,E-2000 or G-2000	0.02 mg/l	0.06 mg/l

Case-Specific LOD/LOQ: The permittee may determine a case-specific LOD or LOQ using the analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

14. The permittee is authorized to discharge from **Outfall 008S** (located at Latitude and Longitude: DMS 37°55'14.5"N, 87°19'28.2"W; DEC 37.92069,-87.3245) in accordance with the terms and conditions of this permit. The discharge is limited to stormwater runoff from a combination of grassy areas, roadways, and parking lots, and may include once through non-contact air conditioner chiller water from Building 01 (20 gpm) during the summer. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the unnamed tributary to Cypress Creek. Such discharge shall be limited and monitored by the permittee as specified below:

Outfall 008S

DISCHARGE LIMITATIONS [1][2][3][4]

				Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	-------	Report	MGD	Quarterly [5]	Estimate Total
pH	-------	Report	s.u.	Annually	Grab
Oil & Grease	-------	Report	mg/l	Annually	Grab
Total Suspended Solids (TSS)	-------	Report	mg/l	Quarterly [5]	Grab
$CBOD_5$	-------	Report	mg/l	Annually	Grab
COD	-------	Report	mg/l	Annually	Grab
Total Residual Chlorine [6][7]					
Interim	Report	Report	mg/l	2 X Monthly	Grab
Final	0.016	0.038	mg/l	2 X Monthly	Grab
Fluoride	-------	Report	mg/l	Quarterly [5]	Grab
Total Kjeldahl Nitrogen	-------	Report	mg/l	Annually	Grab
Nitrate/nitrite (as N)	-------	Report	mg/l	Annually	Grab
Total Phosphorus	-------	Report	mg/l	Annually	Grab

[1] See Part I.B. of the permit for the Narrative Water Quality Limitations.

[2] In the event that changes are to be made in the use of water treatment additives, including dosage, or a new water treatment additive is to be used that will contribute to Outfall 008S, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: http://www.in.gov/idem/5157.htm.

[3] The Storm Water Monitoring and Non-Numeric Effluent Limits and the Storm Water Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.

[4] With the exception of the samples taken for total residual chlorine (see Footnote [6], below) all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. There shall be a minimum of three (3) months between reported sampling events for the parameters that are reported on an annual basis.

For each sample taken, the permittee shall record the duration and total rainfall of the storm event, the number of hours between beginning of the storm measured and the end of the previous measurable rain event, and the outside temperature at the time of sampling.

A grab sample shall be taken during the first thirty (30) minutes of the discharge (or as soon thereafter as practicable).

[5] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[6] The Final limits and monitoring requirements for total residual chlorine are effective six (6) months after the effective date of this permit modification. Until these Final limits are effective, the Interim requirements are in effect. The samples for total residual chlorine shall be taken, if possible, when storm water is not contributing to the discharge through this outfall.

[7] The water quality-based effluent limitations for total residual chlorine are less than the limit of quantitation (LOQ) as specified below. If the measured concentration of total residual chlorine at this outfall is greater than the respective limit of detection (LOD) specified in the table below in any three (3) consecutive analyses, or any five (5) out of nine (9) analyses, then the discharger shall:

(1) Determine the source of the parameter through an evaluation of sampling techniques, analytical/laboratory procedures, and waste streams (including internal waste streams).

(2) The sampling and analysis for total residual chlorine (TRC) shall be increased to weekly and remain at this increased sampling frequency until:

(a) The increased sampling frequency for TRC has been in place for at least six weeks;

(b) At least nine (9) samples have been taken under this increased sampling frequency; and

(c) The measured concentration of TRC is less than the LOD specified in the table below in at least seven (7) out of the nine (9) most recent analyses.

(3) The following EPA test methods and/or Standard Methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM.

Parameter	Test Method	LOD	LOQ
Chlorine	4500-Cl-D-2000,E-2000 or G-2000	0.02 mg/l	0.06 mg/l

Case-Specific LOD/LOQ: The permittee may determine a case-specific LOD or LOQ using the analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

16. The permittee is authorized to discharge from **Outfall 010S** (located at Latitude and Longitude: DMS 37°55'47.6"N, 87°19'31.8"W; DEC 37.92989,-87.3255) in accordance with the terms and conditions of this permit. The discharge is limited to a combination of stormwater runoff from light industrial-use areas, air conditioner condensate, potential water from the 820 cooling tower, cooling water and incidental amounts of fire foam from the fire suppression system. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the unnamed tributary to Cypress Creek. Such discharge shall be limited and monitored by the permittee as specified below:

Outfall 010S

DISCHARGE LIMITATIONS [1][2][3][4]

				Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	-------	Report	MGD	Quarterly [5]	Estimate Total
pH	-------	Report	s.u.	Annually	Grab
Oil & Grease	-------	Report	mg/l	Annually	Grab
Total Suspended Solids (TSS)	-------	Report	mg/l	Quarterly [5]	Grab
$CBOD_5$	-------	Report	mg/l	Annually	Grab
COD	-------	Report	mg/l	Annually	Grab
Aluminum [6]	-------	Report	mg/l	Quarterly [5]	Grab
Total Residual Chlorine [7][8]					
Interim	Report	Report	mg/l	2 X Monthly	Grab
Final	0.016	0.038	mg/l	2 X Monthly	Grab
Fluoride	-------	Report	mg/l	Quarterly [5]	Grab
Iron [6]	-------	Report	mg/l	Quarterly [5]	Grab
Total Kjeldahl Nitrogen	-------	Report	mg/l	Annually	Grab
Nitrate/nitrite (as N)	-------	Report	mg/l	Annually	Grab
Total Phosphorus	-------	Report	mg/l	Annually	Grab

[1] See Part I.B. of the permit for the Narrative Water Quality Limitations.

[2] In the event that changes are to be made in the use of water treatment additives, including dosage, or a new water treatment additive is to be used that will contribute to Outfall 010S, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: http://www.in.gov/idem/5157.htm.

[3] The Storm Water Monitoring and Non-Numeric Effluent Limits and the Storm Water Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.

[4] With the exception of the samples taken for total residual chlorine (see Footnote [7], below) all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. There shall be a minimum of three (3) months between reported sampling events for the parameters that are reported on an annual basis.

For each sample taken, the permittee shall record the duration and total rainfall of the storm event, the number of hours between beginning of the storm measured and the end of the previous measurable rain event, and the outside temperature at the time of sampling.

A grab sample shall be taken during the first thirty (30) minutes of the discharge (or as soon thereafter as practicable).

[5] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[6] The permittee shall measure and report the identified metal in total recoverable form.

[7] The Final limits and monitoring requirements for total residual chlorine are effective six (6) months after the effective date of this permit modification. Until these Final limits are effective, the Interim requirements are in effect. The samples for total residual chlorine shall be taken, if possible, when storm water is not contributing to the discharge through this outfall.

[8] The water quality-based effluent limitations for total residual chlorine are less than the limit of quantitation (LOQ) as specified below. If the measured concentration of total residual chlorine at this outfall is greater than the respective limit of detection (LOD) specified in the table below in any three (3) consecutive analyses, or any five (5) out of nine (9) analyses, then the discharger shall:

(1) Determine the source of the parameter through an evaluation of sampling techniques, analytical/laboratory procedures, and waste streams (including internal waste streams).

(2) The sampling and analysis for total residual chlorine (TRC) shall be increased to weekly and remain at this increased sampling frequency until:

(a) The increased sampling frequency for TRC has been in place for at least six weeks;

(b) At least nine (9) samples have been taken under this increased sampling frequency; and

(c) The measured concentration of TRC is less than the LOD specified in the table below in at least seven (7) out of the nine (9) most recent analyses.

(3) The following EPA test methods and/or Standard Methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM.

Parameter	**Test Method**	**LOD**	**LOQ**
Chlorine	4500-Cl-D-2000,E-2000 or G-2000	0.02 mg/l	0.06 mg/l

Case-Specific LOD/LOQ: The permittee may determine a case-specific LOD or LOQ using the analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

24. The permittee is authorized to discharge from **Outfall 001S** (located at Latitude and Longitude: DMS 37˚54'45.7"N, 87˚19'56.3"W or DEC 37.91269,-87.33231) in accordance with the terms and conditions of this permit. This outfall is located in the same physical location as Outfall 001 and is intended to be representative of the portion of flow not captured by the 001 lift station sump. During non-stormwater conditions, this outfall does not discharge and water is pumped to a series of sump pumps and ultimately to the ash pond system which discharges from internal Outfall 103. During light rain events, discharge at this outfall is limited to raw potable water from the potable water treatment plant, partially-treated water from the potable water treatment plant (groundwater that has been treated with potassium permanganate), and stormwater runoff from the power plant operations.

    Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Ohio River. Such discharge shall be limited and monitored by the permittee as specified below:

Outfall 001S

DISCHARGE LIMITATIONS [1][2][3][4][5]

			Monitoring Requirements	
	Daily		Measurement	Sample
Parameter	Maximum	Units	Frequency	Type
Flow	Report	MGD	Quarterly [6]	Estimate Total [7]
pH	Report	s.u.	Annually	Grab
Oil & Grease	Report	mg/l	Annually	Grab
Total Suspended Solids (TSS)	Report	mg/l	Quarterly [6]	Grab
$CBOD_5$	Report	mg/l	Annually	Grab
COD	Report	mg/l	Annually	Grab
Aluminum [8]	Report	mg/l	Quarterly [6]	Grab
Iron [8]	Report	mg/l	Quarterly [6]	Grab
Total Kjeldahl Nitrogen	Report	mg/l	Annually	Grab
Nitrate/nitrite (as N)	Report	mg/l	Annually	Grab
Total Phosphorus	Report	mg/l	Annually	Grab

[1] See Part I.B. of the permit for the Narrative Water Quality Limitations.

[2] In the event that changes are to be made in the use of water treatment additives, including dosage, or a new water treatment additive is to be used that will contribute to Outfall 001S, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: http://www.in.gov/idem/5157.htm.

[3] The permittee shall post a permanent marker on the stream bank at each outfall discharging directly to the Ohio River. The marker shall consist at a minimum, the name of the permittee, the permit number, and the outfall number. The information shall be printed in letters not less than two inches in height. The marker shall be a minimum of 2 feet by 2 feet and shall be a minimum of 3 feet above the ground.

[4] The Storm Water Monitoring and Non-Numeric Effluent Limits and the Storm Water Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.

[5] All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. There shall be a minimum of three (3) months between reported sampling events for the parameters that are reported on an annual basis.

For each sample taken, the permittee shall record the duration and total rainfall of the storm event, the number of hours between beginning of the storm measured and the end of the previous measurable rain event, and the outside temperature at the time of sampling.

A grab sample shall be taken during the first thirty (30) minutes of the discharge (or as soon thereafter as practicable).

[6] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[7] During periods of flooding of the Ohio River, flow is unable to be estimated and is therefore not required to be reported. The permittee shall use a code of 9 (conditional monitoring – not required this period) for each such instance. The use of this code is limited to Outfall 001S, and it is expected that the use of this code will be infrequent.

[8] The permittee shall measure and report the identified metal in total recoverable form.

Part IV
Cooling Water Intake Structures

A. Best Technology Available (BTA) Determination

Pursuant to Clean Water Act (CWA) Section 316(b) and 40 CFR 401.14, the location, design, construction and capacity of cooling water intake structure's (CWIS's) of any point source for which a standard is established pursuant to section 301 or 306 of the Act shall reflect the best technology available for minimizing adverse environmental impact.

The EPA promulgated a Clean Water Act (CWA) section 316(b) regulation on August 15, 2014, that establishes standards for cooling water intake structures. 79 Fed. Reg. 48300-439 (August 15, 2014). The regulation establishes best technology available standards to reduce impingement and entrainment of aquatic organisms at existing power generation and manufacturing facilities and it became effective on October 14, 2014. The regulation is applicable to point sources with a cumulative design intake flow (DIF) greater than 2 MGD where 25% or more of the water withdrawn is used exclusively for cooling purposes.

Impingement is the process by which fish and other aquatic organisms are trapped and often killed or injured when they are pulled against the CWIS's outer structure or screens as water is withdrawn from a water body. Entrainment is the process by which fish larvae and eggs and other aquatic organisms in the intake flow enter and pass through a CWIS and into a cooling water system, including the condenser or heat exchanger, which often results in the injury or the death of the organisms. (see definitions at 40 CFR § 125.92(h) and (n)).

The Alcoa Warrick facility's design intake flow rate is 576 MGD. Therefore, since the facility has a DIF greater than 2 MGD, and because the percentage of flow used at the facility exclusively for cooling is greater than 25%, the facility is required to meet the BTA standards for impingement mortality and entrainment, including any measures to protect Federally-listed threatened and endangered species and designated critical habitat established under 40 CFR 125.94(g).

Alcoa Warrick LLC completed a CWA Section 316(b) Report, dated January 31, 2018, as required by the current permit and 40 CFR 122.21(r). The report was submitted to the Bloomington Field Office of the U.S. Fish & Wildlife Service on March 6, 2018. Mr. Daniel Sparks, Senior Fish and Wildlife Biologist, U.S. Fish & Wildlife Service provided comments on June 1, 2018.

As part of this permit renewal, IDEM has determined the best technology available (BTA) for impingement and entrainment for the Alcoa Warrick facility and has established requirements reflecting this BTA in this Part of the permit (Part IV.).

The Fact Sheet and Alcoa's CWA 316(b) Report provides a discussion of and supporting information on the BTA determination.

1. Final § 316(b) Rule's Best Technology Available Standard for Impingement Mortality

   EPA's cooling water intake structure regulations require a facility to choose from one of the following seven best available technology options:

1. Operate a closed-cycle recirculating system as defined by the Final Rule (at §125.92)
2. Operate a CWIS that has a maximum design through-screen design intake velocity of 0.5 fps;
3. Operate a CWIS that has an actual through-screen intake velocity of 0.5 fps;
4. Operate an offshore velocity cap that is a minimum of 800 feet offshore;
5. Operate a modified traveling screen that the Director determines meets the definition of the rule (at §125.92(s)) and that the Director determines is BTA for impingement reduction;
6. Operate any other combination of technologies, management practices, and operational measures that the Director determines is BTA for impingement reduction; or
7. Achieve the specified IM performance standard of less than 24 percent.

Alcoa has chosen impingement mortality option 5, **modified traveling screens**, for compliance with the impingement mortality standard.

New traveling screens would need to be installed since the existing screens are not suited for retrofitting with buckets. The new screens would be equipped with a modified bucket system and a low-pressure spray that would gently wash the collected fish out of the buckets and into a separate fish return trough (a new more effective fish return shall be installed to replace the existing fish return). The return discharge would be routed away from the CWIS to prevent secondary flow circulation and re-impingement.

The modified traveling screens would be continually rotated while the plant is in operation.

A more complete description of the fish handling and return system that will be installed at the facility is included in the application materials.

IDEM concurs that the selection of modified traveling screens, as described in the permittee's application, qualifies as BTA to reduce impingement mortality.

2. Final § 316(b) Rule's BTA Standard for Entrainment

For existing facilities, EPA did not identify any single technology or group of technology controls as available and feasible for establishing national performance standards for entrainment. Instead, EPA's regulations require the permitting agency to make a site-specific determination of the best technology available (BTA) standard for entrainment for each individual facility. *See* 40 CFR § 125.94(d).

EPA's regulations put in place a framework for establishing entrainment requirements on a site-specific basis, including the factors that must be considered in the determination of the appropriate entrainment controls. These factors include the number or organisms entrained, changes in air emissions, land availability, and remaining useful plant life. These required factors are listed under 40 CFR § 125.98(f)(2).

EPA's regulations also establish factors that may be considered when establishing site-specific entrainment BTA requirements, including: entrainment impacts on the

waterbody, thermal discharge impacts, credit for flow reductions associated with unit retirements, impacts on reliability of energy delivery, impacts on water consumption, and availability of alternative sources of water. (*Id*. § 125.98(f)(3))

After the permit was issued, the permittee submitted supplemental cooling water intake structure reports and a draft construction schedule. These included a report titled "Social Costs and Benefits of Fine Mesh Screens at the Alcoa Warrick Power Plant" dated June 28, 2019, the preliminary draft construction schedule for the installation of wedgewire screens dated September 18, 2019, and the report titled "Cylindrical Wedgewire Screens Constructability Study" dated March 6, 2020.

In the NPDES permit issued December 20, 2018, the permittee was required to install modified traveling screens to comply with the impingement mortality best technology available (BTA) and install 0.5 mm fine mesh screens to comply with the entrainment mortality BTA. However, because of concerns with respect to the installation of the fine mesh screens, the permit did require the permittee to submit a report to evaluate different size fine mesh modified traveling screens, as well as any other technologies that might be available, with the goal of identifying measures and screen mesh size that will minimize adverse environmental impacts from both impingement and entrainment including a comprehensive re-evaluation of the wedgewire screen alternative.

The report titled "Social Costs and Benefits of Fine Mesh Screens at the Alcoa Warrick Power Plant" dated June 28, 2019, was submitted by the permittee to satisfy the NPDES permit requirement of Part IV.B.1.a. and evaluated the social benefits and costs for different sized fine mesh screens and different-sized cylindrical wedgewire screens, as well as other technologies. The report titled "Cylindrical Wedgewire Screens Constructability Study" dated March 6, 2020, was submitted to satisfy questions that IDEM raised based on the review of the first report and it further evaluated the feasibility and associated social benefits and costs for the installation of different-sized cylindrical wedgewire screens.

Based on the information in the application materials and comments on the draft permit and the supplemental reports the permittee submitted after the permit was issued, IDEM believes installation of **modified traveling screens** provides the maximum reduction in entrainment warranted and is BTA for minimizing adverse environmental impact due to a combination of net social benefits and costs, operational and permitting issues as well as an ability to reduce impacts to fish species.

B. Permit Requirements

The permittee shall comply with the requirements below:

1. Schedule of Compliance: The below schedule of compliance is for installation of the selected BTA for both impingement and entrainment

   The permittee shall install a modified traveling screens at the facility CWIS as expeditiously as practicable but no later than the dates developed in accordance with the following schedule:

a. As soon as practicable, but no later than six (6) months after the effective date of the permit, submit a report that will evaluate social benefits and costs for different size fine mesh modified traveling screens, as well as any other technologies that might be available, with the goal of identifying measures and screen mesh size that will minimize adverse environmental impacts from both impingement and entrainment - most importantly to the fish species that may host glochidia for threatened and endangered mussels. As part of the evaluation of other technologies, the report shall, at a minimum, also include a comprehensive re-evaluation of the wedgewire screen alternative, including biological effectiveness, social benefits and costs and permitting and operational issues with the wedgewire screen alternative.

   The permittee shall include a conceptual design of the selected measures in the report.

b. As soon as practicable, but no later than eighteen (18) months after the effective date of the permit, complete detailed design of the modified traveling screen, including the fish return system.

c. As soon as practicable but no later than twenty-four (24) months after the effective date of the permit, initiate construction of the modified traveling screen and fish return system.

d. As soon as practicable, but no later than thirty-six (36) months after the effective date of the permit, complete construction of the modified traveling screen and fish return system.

e. Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of Office of Water Quality (OWQ) a notice of installation for the modified traveling screen and a design summary of any modifications.

f. The permittee shall submit a written progress report to the Compliance Data Section of the OWQ three (3) months from the effective date of this permit and every six (6) months thereafter until the requirements in the compliance schedule outlined above have been achieved. The progress reports shall include relevant information related to steps the permittee has taken to meet the requirements in the compliance schedule and whether the permittee is meeting the dates in the compliance schedule.

g. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Data Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance.

2. In addition, the permittee shall comply with requirements below:

   a. In accordance with 40 CFR 125.98(b)(1), nothing in this permit authorizes take for the purposes of a facility’s compliance with the Endangered Species Act.

   b. At all times properly operate and maintain the cooling water intake structure and associated equipment.

c. Inform IDEM of any proposed changes to the CWIS or proposed changes to operations at the facility that affect the information taken into account in the current BTA evaluation.

d. After installation of the modified traveling screen has been completed, the permittee shall conduct the impingement technology optimization study required by 40 CFR 125.94(c)(5) and 40 CFR 122.21(r)(6)(i). In preparation for this study, the permittee shall prepare and submit a draft impingement technology optimization study plan to IDEM for review and approval within sixteen (16) months of the effective date of the permit. The permittee shall submit the preliminary results of the first year of their optimization study with 90 days of completion of the first year of sampling. The permittee shall submit the final technology optimization study report, covering both year 1 and year 2 of sampling, within 120 days of completing the second year of sampling.

e. In accordance with 40 CFR 125.97(c), by January 31 of each year, the permittee must submit to the Industrial NPDES Permit Section IDEM-OWQ at OWQWWPER@idem.in.gov an annual certification statement for the preceding calendar year signed by the responsible corporate officer as defined in §122.22 (see 327 IAC 5-2-22) subject to the following:

   (1) If the information contained in the previous year's annual certification is still pertinent, you may simply state as such in a letter to IDEM and the letter, along with any applicable data submission requirements specified in this section shall constitute the annual certification.

   (2) If you have substantially modified operation of any unit at your facility that impacts cooling water withdrawals or operation of your cooling water intake structures, you must provide a summary of those changes in the report. In addition, you must submit revisions to the information required at §122.21(r) of this chapter in your next permit application.

f. Best technology available (BTA) determinations for entrainment mortality and impingement mortality at cooling water intake structures will be made in each permit reissuance, in accordance with 40 CFR 125.90-98. The permittee shall submit all the information required by the applicable provisions of 40 CFR 122.21(r)(2) through (r)(13) with the next renewal application. Since the permittee has submitted the studies required by 40 CFR 122.21(r), the permittee may, in subsequent renewal applications pursuant to 40 CFR 125.95(c), request to reduce the information required, if conditions at the facility and in the waterbody remain substantially unchanged since the previous application so long as the relevant previously submitted information remains representative of current source water, intake structure, cooling water system, and operating conditions. Any habitat designated as critical or species listed as threatened or endangered after issuance of the current permit whose range of habitat or designated critical habitat includes waters where a facility intake is located constitutes potential for a substantial change that must be addressed by the owner/operator in subsequent permit applications, unless the facility received an exemption pursuant to 16 U.S.C. 1536(o) or a permit pursuant to 16 U.S.C. 1539(a) or there is no reasonable expectation of take. The owner or operator of

a facility must submit its request for reduced cooling water intake structure and waterbody application information to IDEM at least two years and six months prior to the expiration of its NPDES permit. The permittee's request must identify each element in 40 CFR 122.21(r) that it determines has not substantially changed since the previous permit application and the basis for the determination. IDEM has the discretion to accept or reject any part of the request.

g. The discharge of intake screen backwash shall meet the Narrative Water Quality Limitations contained in Part I.B of the permit.

h. The permittee shall either conduct visual inspections or employ remote monitoring devices during the period the cooling water intake structure is in operation as required by 40 CFR 125.96(e). The permittee shall conduct such inspections at least weekly to ensure that any technologies operated to comply with § 125.94 are maintained and operated to function as designed including those installed to protect Federally-listed threatened or endangered species or designated critical habitat. Alternative procedures can be approved if this requirement is not feasible (e.g., an offshore intake, velocity cap, or during periods of inclement weather).

i. The permittee shall submit and maintain all the information required by the applicable provisions of 40 CFR 125.97.

j. All required reports shall be submitted to the IDEM, Office of Water Quality, NPDES Permits Branch, Industrial NPDES Permit Section at OWQWWPER@idem.in.gov.

National Pollutant Discharge Elimination System

Permit Modification
Fact Sheet for

Warrick Newco LLC

Draft modification: August 2021

Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027

Permittee:	Warrick Newco LLC PO Box 10 Newburgh, Indiana 47629
Existing Permit Information:	Permit Number: IN0001155 Expiration Date: December 31, 2023
Facility Contact:	Thomas Shaw, Environmental Manager (812) 660-2602, Thomas.shaw@alcoa.com
Facility Location:	4400 West State Route 66 Newburgh, Indiana 46730 Warrick County
Receiving Stream:	The Ohio River and unnamed tributaries to Cypress Creek
GLI/Non-GLI:	Non-GLI
Proposed Permit Action:	Modification
Date Application Received:	October 30, 2020
Source Category	NPDES Major – Industrial
Permit Writer:	Brad Gavin, Environmental Engineer I (317) 234-4155, bgavin@idem.in.gov

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1.0 INTRODUCTION

The Indiana Department of Environmental Management (IDEM) received a request from Alcoa Warrick LLC on October 30, 2020 to modify National Pollutant Discharge Elimination System (NPDES) Permit IN0001155. In addition, after the permit modification request was submitted, the permit was modified on January 28, 2021 to reflect a transfer of the NPDES permit from Alcoa Warrick LLC to Warrick Newco LLC. A minor correction to this permit transfer modification was issued on February 9, 2021.

The current five-year permit was issued on December 19, 2018 with an effective date of January 1, 2019.

On December 27, 2018, the permittee filed a petition requesting an adjudicatory hearing and administrative review of certain requirements and conditions in its renewed NPDES permit and also requested a stay of effectiveness of certain provisions and conditions. IDEM did agree to a stay of certain provisions and conditions. On April 6, 2021 the permittee filed a motion to dismiss its petition for review and the environmental law judge dismissed it as requested on that day.

Effective March 18, 2021, IDEM and the permittee entered into an agreed order. Through this agreed order, the permittee is required to submit a compliance plan identifying the actions that the permittee will take to achieve and maintain compliance with its permit, including achieving and maintaining compliance with the permit limits for pH at Outfall 303 and Outfall 403; its mercury limits at Outfall 001, Outfall 003, Outfall 004, and Outfall 005; and implementation of the 316(b) BTA for both impingement and entrainment at its cooling water intake structure. This compliance plan was submitted to IDEM on May 13, 2021.

The Federal Water Pollution Control Act (more commonly known as the Clean Water Act), as amended, (Title 33 of the United States Code (U.S.C.) Section 1251 *et seq.*), requires an NPDES permit for the discharge of pollutants into surface waters. Furthermore, Indiana laws requires a permit to control or limit the discharge of any contaminants into state waters or into a publicly owned treatment works. This proposed permit action by IDEM complies with and implements these federal and state requirements.

In accordance with Indiana Administrative Code (IAC) 327 Article 5-3-8, as well as Title 40 of the Code of Federal Regulations (CFR) Sections 124.8 and 124.56, development of a Fact Sheet is required for certain NPDES permits. This permit does require a Fact Sheet. This document fulfills the requirements established in those regulations.

This Fact Sheet was prepared to explain the derivation of the terms and conditions in the permit modification and the reasons for them.

2.0 FACILITY DESCRIPTION

2.1 General

The Warrick facility is an integrated aluminum manufacturing plant, which includes rolling mill and aluminum smelter operations and an adjacent coal-fired steam electric power plant. In March 2021, the Kaiser Aluminum Corporation purchased the rolling mill operations at this facility. The Alcoa Corporation still owns the aluminum smelter operations (Warrick Newco LLC) and the coal-fired steam electric power plant (Alcoa Power Generating Inc).

Warrick Newco LLC is classified under the following Standard Industrial Classification (SIC) Codes in order of priority: 3334 – Primary Aluminum Production and 3353 – Aluminum Sheet, Plate, and Foil, and Alcoa Power Generating Inc. is classified under SIC Code 4911 – Electric Services.

A map showing the location of the facility has been included as Figure 1.

Figure 1: Facility Location

Warrick Newco LLC
4400 West State Road 66 (formerly 4000 State Road 66)
Newburgh, Indiana 47629
Warrick County

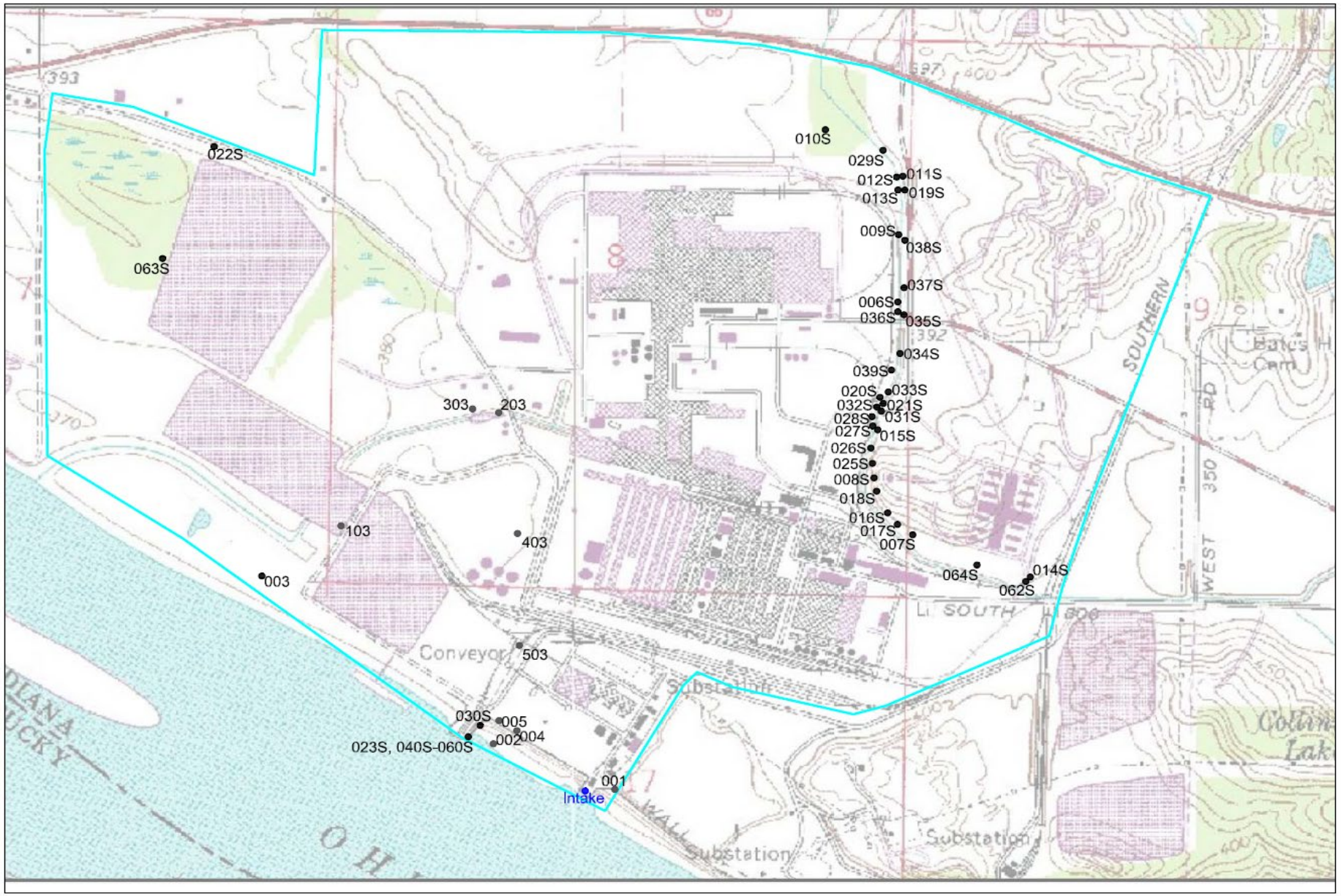
2.2 Outfall Locations

A map showing the location of these outfalls is included below as Figure 2.

Outfall	Latitude	Longitude	Decimal Degrees	Receiving Water
001	37°54'45.7"	-87°19'56.3"	37.91269,-87.33231	Ohio River
002	37°54'50.3"	-87°20'09.7"	37.91397,-87.33603	Ohio River
003	37°55'05.1"	-87°20'35.9"	37.91808,-87.34331	Ohio River
103	37°55'10.9"	-87°20'26.6"	37.91969,-87.34072	Combines with Outfall 303 and discharges through Outfall 003
203	37°55'21.4"	-87°20'08.6"	37.92261,-87.33572	Discharges through Outfall 303
303	37°55'21.7"	-87°20'12.1"	37.92269,-87.33669	Combines with Outfall 103 and discharges through Outfall 003
403	37°55'09.9"	-87°20'06.7"	37.91942,-87.33519	Used in flue gas desulfurization scrubbers, discharges through Outfall 503, then 103 and ultimately through Outfall 003
503	37°55'00.4"	-87°20'05.9"	37.91678,-87.33497	Discharges through Outfall 103 and ultimately through Outfall 003
603	NA	NA	NA	Administrative Outfall-Not a physical outfall
703	37°54'57"	-87°20'04"	37.9158,-87.3344	Discharges through Outfall 103 and ultimately through Outfall 003
004	37°54'51.8"	-87°20'07.4"	37.91439,-87.33539	Ohio River
005	37°54'52.6"	-87°20'08.9"	37.91461,-87.33581	Ohio River
001S	37°54'45.7"	-87°19'56.3"	37.91269,-87.33231	Ohio River
006S	37°55'31.4"	-87°19'22.8"	37.92539,-87.323	Unnamed tributary of Cypress Creek
007S	37°55'08.8"	-87°19'21.7"	37.91911,-87.32269	Unnamed tributary of Cypress Creek
008S	37°55'14.5"	-87°19'28.2"	37.92069,-87.3245	Unnamed tributary of Cypress Creek
009S	37°55'37.6"	-87°19'22.8"	37.92711,-87.323	Unnamed tributary of Cypress Creek
010S	37°55'47.6"	-87°19'31.8"	37.92989,-87.3255	Unnamed tributary of Cypress Creek
011S	37°55'43.3"	-87°19'22.4"	37.92869,-87.32289	Unnamed tributary of Cypress Creek
012S	37°55'43.3"	-87°19'22.8"	37.92869,-87.323	Unnamed tributary of Cypress Creek
013S	37°55'41.5"	-87°19'22.8"	37.92819,-87.323	Unnamed tributary of Cypress Creek
014S	37°55'05.2"	-87°19'08.8"	37.91811,-87.31911	Unnamed tributary of Cypress Creek
015S	37°55'19.6"	-87°19'26.4"	37.92211,-87.324	Unnamed tributary of Cypress Creek
016S	37°55'10.9"	-87°19'24.6"	37.91969,-87.3235	Unnamed tributary of Cypress Creek
017S	37°55'09.8"	-87°19'22.8"	37.91939,-87.323	Unnamed tributary of Cypress Creek
018S	37°55'13.4"	-87°19'27.8"	37.92039,-87.32439	Unnamed tributary of Cypress Creek
019S	37°55'41.9"	-87°19'22.4"	37.92831,-87.32289	Unnamed tributary of Cypress Creek
020S	37°55'22.4"	-87°19'25.0"	37.92289,-87.32361	Unnamed tributary of Cypress Creek
021S	37°55'21.7"	-87°19'25.3"	37.92269,-87.32369	Unnamed tributary of Cypress Creek
022S	37°55'46.2"	-87°20'42.0"	37.9295,-87.345	Wetlands which are tributary to Cypress Creek
023S	37°54'50.9"	-87°20'12.8"	37.91414,-87.33689	Ohio River
025S	37°55'16.0"	-87°19'27.8"	37.92111,-87.32439	Unnamed tributary of Cypress Creek
026S	37°55'17.8"	-87°19'27.1"	37.92161,-87.32419	Unnamed tributary of Cypress Creek
027S	37°55'19.6"	-87°19'26.8"	37.92211,-87.32411	Unnamed tributary of Cypress Creek
028S	37°55'20.3"	-87°19'26.0"	37.92231,-87.32389	Unnamed tributary of Cypress Creek
029S	37°55'46.2"	-87°19'23.9"	37.9295,-87.32331	Unnamed tributary of Cypress Creek
030S	37°54'51.8"	-87°20'11.0"	37.91439,-87.33639	Ohio River
031S	37°55'21.4"	-87°19'25.7"	37.92261,-87.32381	Unnamed tributary of Cypress Creek
032S	37°55'21.7"	-87°19'25.7"	37.92269,-87.32381	Unnamed tributary of Cypress Creek
033S	37°55'22.8"	-87°19'25.0"	37.923,-87.32361	Unnamed tributary of Cypress Creek

Outfall	Latitude	Longitude	Decimal Degrees	Receiving Water
034S	37°55'26.8"	-87°19'22.8"	37.92411,-87.323	Unnamed tributary of Cypress Creek
035S	37°55'30.4"	-87°19'22.8"	37.92511,-87.323	Unnamed tributary of Cypress Creek
036S	37°55'30.4"	-87°19'23.2"	37.92511,-87.32311	Unnamed tributary of Cypress Creek
037S	37°55'32.5"	-87°19'22.4"	37.92569,-87.32289	Unnamed tributary of Cypress Creek
038S	37°55'36.8"	-87°19'22.4"	37.92689,-87.32289	Unnamed tributary of Cypress Creek
039S	37°55'25.3"	-87°19'23.9"	37.92369,-87.32331	Unnamed tributary of Cypress Creek
040S	37°54'52.6"	-87°20'12.1"	37.91461,-87.33669	Ohio River
041S	37°54'52.2"	-87°20'12.5"	37.9145,-87.33681	Ohio River
042S	37°54'51.9"	-87°20'12.8"	37.91442,-87.33689	Ohio River
043S	37°54'51.8"	-87°20'13.0"	37.91439,-87.33694	Ohio River
044S	37°54'51.8"	-87°20'13.2"	37.91439,-87.337	Ohio River
045S	37°54'51.8"	-87°20'13.5"	37.91439,-87.33708	Ohio River
046S	37°54'51.3"	-87°20'13.5"	37.91425,-87.33708	Ohio River
047S	37°54'51.3"	-87°20'13.3"	37.91425,-87.33703	Ohio River
048S	37°54'51.2"	-87°20'13.2"	37.91422,-87.337	Ohio River
049S	37°54'51.1"	-87°20'13.1"	37.91419,-87.33697	Ohio River
050S	37°54'51.0"	-87°20'12.9"	37.91417,-87.33692	Ohio River
051S	37°54'50.8"	-87°20'12.7"	37.91411,-87.33686	Ohio River
052S	37°54'50.8"	-87°20'12.6"	37.91411,-87.33683	Ohio River
053S	37°54'50.7"	-87°20'12.4"	37.91408,-87.33678	Ohio River
054S	37°54'50.6"	-87°20'12.3"	37.91406,-87.33675	Ohio River
055S	37°54'50.6"	-87°20'12.0"	37.91406,-87.33667	Ohio River
056S	37°54'50.8"	-87°20'11.8"	37.91411,-87.33661	Ohio River
057S	37°54'50.9"	-87°20'11.7"	37.91414,-87.33658	Ohio River
058S	37°54'51.0"	-87°20'11.8"	37.91417,-87.33661	Ohio River
059S	37°54'51.3"	-87°20'11.8"	37.91425,-87.33661	Ohio River
060S	37°54'52.7"	-87°20'10.7"	37.91464,-87.33631	Ohio River
062S	37°55'05.2"	-87°19'09.1"	37.91811,-87.31919	Unnamed tributary of Cypress Creek
063S	37°55'35.0"	-87°20'47.4"	37.92639,-87.3465	Wetlands which are tributary to Cypress Creek
064S	37°55'06.2"	-87°19'14.5"	37.91839,-87.32069	Unnamed tributary of Cypress Creek

Figure 2: Outfall Locations



3.0 PERMIT MODIFICATION

3.1 Modification Request

In addition to its October 30, 2020 letter describing the revisions it was requesting, the permittee included a red-lined version of the permit with its proposed changes. In its letter, the permittee requested the following revisions to its permit:

(a) Address Discharge through Outfall 001 Currently Bypassing the Monitoring Location

In March 2019, the permittee notified IDEM that a portion of the effluent discharging from Outfall 001 was found to bypass the Outfall 001 collection sump and was therefore not being monitored at the Outfall 001 monitoring station. This water was previously believed to drain to the Outfall 001 collection sump prior to discharge to the Ohio River and is included in the permit description for Outfall 001.

This discharge includes the following wastestreams:

- Storm water from the southeast corner of the permittee's property (Approximately 5 acres of Outfall 001's 52-acre drainage area)
- Process water from the potable water treatment facility, consisting of the following:
  - Clean potable water from the potable water testing room (Continuous flow of approximately 1.5 gpm)
  - Partially-treated water from the potable water treatment plant (Well water that has been treated with potassium permanganate, prior to filtering and chlorination, Continuous flow of approximately 3 gpm)

A diagram showing the drainage area map for Outfall 001, including the portion of Outfall 001 flow that does not flow through the Outfall 001 collection sump and monitoring station prior to discharge is included below as Figure 1.

In order to minimize the direct discharge from the area as much as possible, the permittee has installed a sump pump in a manhole just prior to discharge to Outfall 001. The sump pump, labelled "MINI SUMP" on the Outfall 001 Drainage Area Map, pumps the base flow of water (primarily from the potable water plant) to the nearby 380X sump, which pumps to the Outfall 004 collection sump. The Outfall 004 sump has the potential to discharge via Outfall 004 during very heavy rain events, but water in the sump is pumped to the ash ponds under normal conditions, for ultimate discharge via Outfall 103. All shop floor drains in the drainage area outlined in blue on the Outfall 001 Drainage Area Map have been plugged to remove the potential of discharge from incidental amounts of spills, leaks, or floor wash- downs.

The permittee requested the addition of Outfall 001S to the NPDES permit. This outfall would be a stormwater outfall with the drainage area indicated in blue on the Outfall 001 Drainage Area Map. Discharges would consist of stormwater, potable water, and groundwater that has been treated with potassium permanganate, as detailed in the explanation of discharges above. The permittee proposes to monitor Outfall 001S following the same requirements as other stormwater outfalls in the permit. Samples would be collected during a qualifying rain event, with efforts to

only collect samples during periods when the 001 intercept sump is not overflowing to the Ohio River (i.e. when the current Outfall 001 is not discharging). The sampling location will be a point representative of the discharge prior to entry into the Ohio River. The permittee plans to collect samples at the discharge pipe to the Ohio River. When the discharge pipe is inaccessible due to flooding of the Ohio River, samples will be collected upstream at a manhole where estimation of flow will not be possible.

(b) Establish new compliance points for technology-based pH limits

The permittee's NPDES permit issued in December 2018 introduced more stringent pH limitations at Outfalls 303 and 403 than what were included in prior NPDES permits. The permittee is unable to meet the more stringent pH limits of 7 to 9 s.u. at Outfalls 303 and 403. The chosen solution to meet the limits includes treatment (where applicable) and monitoring at the ELG sources instead of monitoring at the outfalls. The table below lists each applicable ELG, the associated pH technology-based effluent limit (TBEL), and the permittee's proposed monitoring location to demonstrate compliance with the TBEL.

ELG	Proposed Monitoring Location	pH TBEL[s.u.]	
		Min	Max
40 CFR Part 421: Nonferrous Metals Manufacturing Point Source Category	Ingot casting cooling water system blowdown	6	9
40 CFR Part 467: Aluminum Forming Point Source Category, Core	Building 871E Wastewater Treatment Facility effluent	7.0	10.0
40 CFR Part 467: Aluminum Forming Point Source Category, Cleaning or Etching Bath	Building 879 Combined Spent Wash Treatment Facility effluent and Water-Based Coating Solution Treatment Facility effluent*	7.0	10.0
40 CFR Part 467: Aluminum Forming Point Source Category, Cleaning or Etching Rinse		7.0	10.0
*The building 879 effluents are merged, prior to pH treatment, upstream of the sampling point			

(c) Modify and Delay Flue Gas Desulfurization Wastestream Evaluation

The permittee requested more time to conduct and submit to IDEM an evaluation of control techniques as specified in Footnote [4] of Permit Part I.A.8 Outfall 503. Instead of a requirement to submit within three (3) years of the effective date of the permit, the permittee requested that the evaluation be submitted with the NPDES permit renewal application.

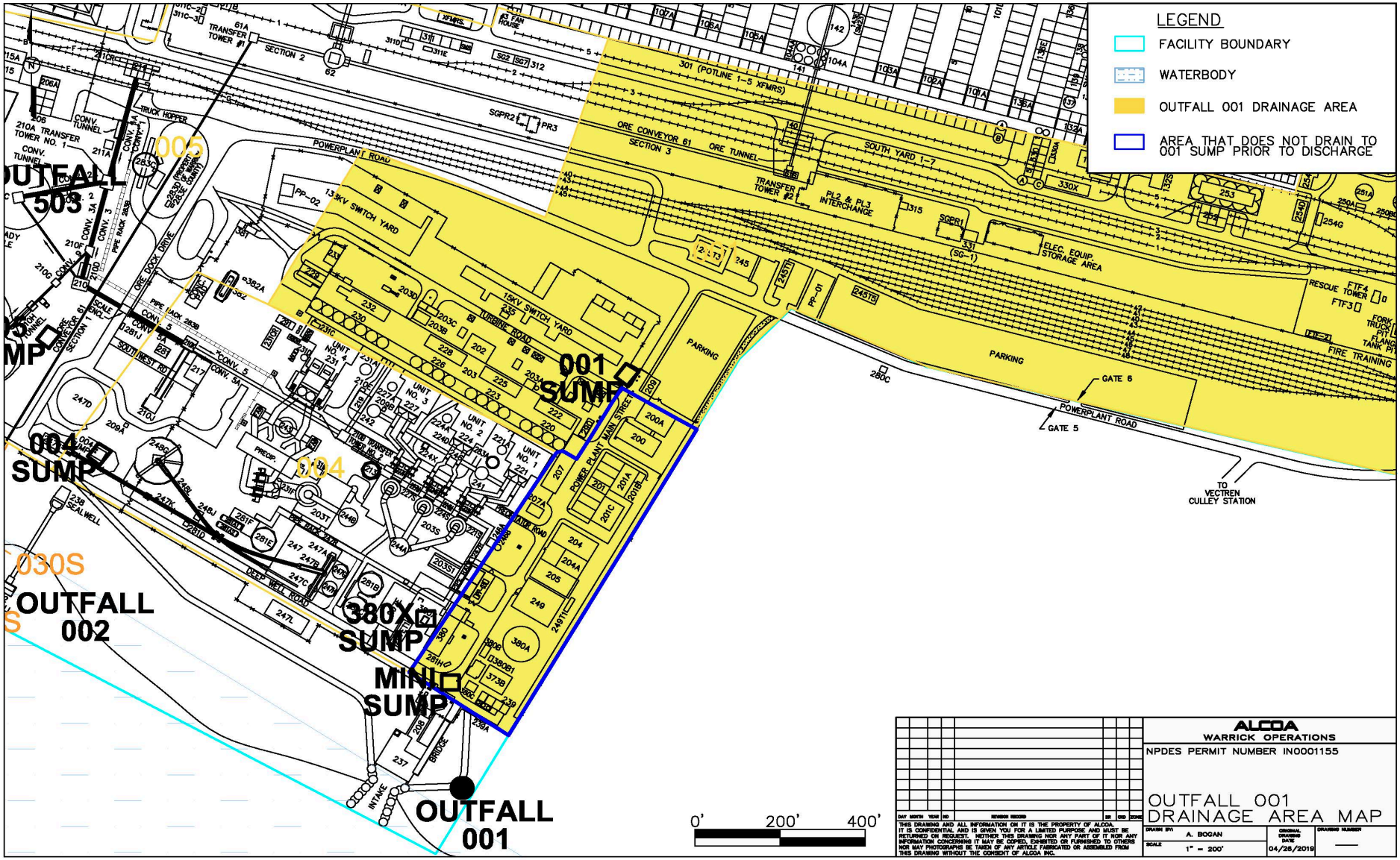
(d) Modify and Delay 316(b) BTA requirements

As detailed in an email the permittee received from IDEM on May 27th, 2020, IDEM agrees that the existing cooling water intake structure, along with the modified travelling screens to be installed as BTA for impingement mortality, would qualify as BTA for entrainment mortality. The existing permit requires that the permittee install fine mesh screens for entrainment mortality, and a permit modification will therefore be necessary to remove the fine mesh screen requirement. As such, the permittee requests that IDEM update the NPDES permit to match IDEM's position detailed in the May 27th, 2020 email.

In addition, the permittee proposed the following schedule to comply with the BTA requirements for impingement and entrainment:

Milestone	**Proposed Schedule**
Complete detailed design of the modified traveling screen and fish return system	No later than 18 months after the effective date of the modified permit
Initiate construction of the modified traveling screen and fish return system	No later than 36 months after the effective date of the modified permit
Complete construction of the modified traveling screen and fish return system	No later than 48 months after the effective date of the modified permit
Draft impingement technology optimization study plan to IDEM for review/approval	Within 36 months of the effective date of the modified permit

Figure 1. Outfall 001 Drainage Area Map



3.2 IDEM's Proposed Modification

1. Permittee's Requested Revisions

With respect to the permittee's requested revisions, IDEM is proposing the following changes to the permit:

(a) Address Discharge through Outfall 001 Currently Bypassing the Monitoring Location

IDEM is adding a new Outfall 001S to the permit for this discharge. This outfall will be a stormwater outfall with the drainage area outlined in blue on Figure 1, above (located on the southeast section of the map). Discharges would consist of stormwater, potable water, and groundwater that has been treated with potassium permanganate, as detailed in the explanation of discharges in Section 3.1(a), above.

As requested by the permittee, the limitations and monitoring requirements established at this outfall will be the same as the requirements established for most of the permittee's other stormwater outfalls. These requirements would be as follows:

			Monitoring Requirements	
	Daily		Measurement	Sample
Parameter	Maximum	Units	Frequency	Type
Flow	Report	MGD	Quarterly	Estimate Total
pH	Report	s.u.	Annually	Grab
Oil & Grease	Report	mg/l	Annually	Grab
Total Suspended Solids (TSS)	Report	mg/l	Quarterly	Grab
$CBOD_5$	Report	mg/l	Annually	Grab
COD	Report	mg/l	Annually	Grab
Aluminum	Report	mg/l	Quarterly	Grab
Iron	Report	mg/l	Quarterly	Grab
Total Kjeldahl Nitrogen	Report	mg/l	Annually	Grab
Nitrate/nitrite (as N)	Report	mg/l	Annually	Grab
Total Phosphorus	Report	mg/l	Annually	Grab

Samples will be collected at the location the outfall pipe discharges to the Ohio River. When the discharge pipe is inaccessible due to flooding of the Ohio River, samples will be collected upstream at a manhole where estimation of flow will not be possible.

(b) Establish new compliance points for technology-based pH limits

In this permit modification, IDEM is proposing to revise the requirements for pH at Outfall 303 and 403 as follows:

i. Outfall 303

The current pH limits of a daily minimum of 7.0 and a daily maximum of 9.0 at Outfall 303 will be changed as follows:

	Quality or Concentration		
Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	s.u.

The compliance monitoring point for these pH limits will be at the ingot casting cooling water system blowdown discharge, which is upstream of Outfall 303.

These pH limits are the technology-based effluent limitations guidelines (ELG) limits applicable under 40 CFR 421.22, the nonferrous metals manufacturing point source category. The ingot casting cooling water system blowdown is subject to these ELGs.

ii. Outfall 403

The current pH limits of a daily minimum of 7.0 and a daily maximum of 9.0 at Outfall 403 will be changed as follows:

	Quality or Concentration		
Parameter	Daily Minimum	Daily Maximum	Units
pH	7.0	10.0	s.u.

The compliance monitoring points for these pH limits will be at the following locations, which are upstream of Outfall 403:

Building 871E Wastewater Treatment Facility effluent
Building 879 Combined Spent Wash Treatment Facility effluent and Water-Based Coating Solution Treatment Facility effluent

These pH limits are the technology-based effluent limitations guidelines (ELG) limits applicable under 40 CFR 467.22, the primary aluminum smelting point source category. The above wastestreams are subject to these ELGs.

The permittee is in the process of installing the necessary pH monitoring equipment to monitor for pH at these new locations. Until such time this installation has been completed and the permittee notifies IDEM of its completion, the pH limits in the current permit will remain in effect at both Outfall 303 and 403.

(c) Modify and Delay Flue Gas Desulfurization Wastestream Evaluation

IDEM did not modify the deadline for the submission of this evaluation of the Outfall 503 wastestream. The permit issued in December 2018 required completion of this evaluation of control techniques which are available and able to significantly reduce the pollutants present in this wastestream within three years of the effective date of the permit. The permittee did not provide any rationale for delaying the submission of this evaluation in its modification request. Therefore, this change was not made in the permit.

(d) Modify and Delay 316(b) BTA requirements

IDEM proposes to remove the requirement that a fine mesh screen be installed as detailed in IDEM's May 27, 2020 e-mail to the permittee. In this e-mail, IDEM stated as follows:

We appreciate Alcoa's submission of the supplemental cooling water intake structure reports and draft construction schedule. These include the report titled "Social Costs and Benefits of Fine Mesh Screens at the Alcoa Warrick Power Plant" dated June 28, 2019, the preliminary draft construction schedule for the installation of wedgewire screens dated September 18, 2019, and the report titled "Cylindrical Wedgewire Screens Constructability Study" dated March 6, 2020.

In Alcoa's NPDES permit issued December 20, 2018, Alcoa was required to install modified traveling screens to comply with the impingement mortality best technology available (BTA) and install 0.5 mm fine mesh screens to comply with the entrainment mortality BTA. However, because of concerns with respect to the installation of the fine mesh screens, the permit did require Alcoa to submit a report to evaluate different size fine mesh modified traveling screens, as well as any other technologies that might be available, with the goal of identifying measures and screen mesh size that will minimize adverse environmental impacts from both impingement and entrainment including a comprehensive re-evaluation of the wedgewire screen alternative.

The report titled "Social Costs and Benefits of Fine Mesh Screens at the Alcoa Warrick Power Plant" dated June 28, 2019, was submitted by Alcoa to satisfy the NPDES permit requirement of Part IV.B.1.a. and evaluated the social benefits and costs for different sized fine mesh screens and different-sized cylindrical wedgewire screens, as well as other technologies. The report titled "Cylindrical Wedgewire Screens Constructability Study" dated March 6, 2020, was submitted to satisfy questions that IDEM raised based on the review of the first report and it further evaluated the feasibility and associated social benefits and costs for the installation of different-sized cylindrical wedgewire screens.

Based on the new information submitted by Alcoa, IDEM agrees that the installation of modified traveling screens would qualify as BTA for impingement mortality and the existing cooling water intake structure with the new modified traveling screens, without fine mesh screens, would qualify as BTA for entrainment mortality.

However, IDEM did not revise the other deadlines in the compliance schedule as requested by the permittee. The rules which authorize the inclusion of a schedule of compliance in an NPDES permit in certain circumstances can be found at 327 IAC 5-2-12. These rules allow a schedule of compliance in a NPDES permit when requested and justified by the permittee, but only when appropriate and when the schedule of compliance requires achievement of compliance "as soon as possible" and meets other specified conditions. Such a compliance schedule cannot exceed a period of three years from the date that requirement was incorporated into the permit. The December 2018 permit provided the permittee three years to comply with these 316(b) BTA requirements. The elimination of the requirement to install fine mesh screens does not justify revision of the permit to include additional time for compliance.

Further, compliance with these 316(b) BTA requirements is being addressed through the March 18, 2021, Agreed Order.

2. Additional Revisions

In addition to the changes requested by the permittee, IDEM is proposing the following changes to the permit:

(a) Total Residual Chlorine at Outfalls 006S, 008S, and 010S

IDEM proposes to add water quality-based effluent limitations for total residual chlorine at stormwater Outfalls 006S, 008S, 010S.

In the renewal application the permittee submitted in 2018, the permittee reported high levels of total residual chlorine in the effluent from Outfalls 006S, 008S, and 010S, based on a single sample at each outfall. At Outfall 006S, a value of 0.36 mg/l was reported; at 008S, a value of 0.13 mg/l was reported and at Outfall 010S, a value of 0.42 mg/l was reported.

Because of the high concentration of total residual chlorine reported at these outfalls, the December 2018 permit required the permittee to further characterize the concentrations of total residual chlorine at each of these outfalls and also investigate the sources of total residual chlorine in each of these outfalls. The permittee was required to submit the results of these studies to IDEM within one year of the effective date of the permit. In addition, a reopening clause was included in Part I.H.9. of the permit allowing the permit to be modified based on the results of these studies at Outfalls 006S, 008S, and 010S.

The permittee submitted the results of these studies to IDEM on December 30, 2019.

A summary of the results of this investigation is as follows:

<u>Outfall 006S</u>

The permittee monitoring for total residual chlorine 10 times during the study period. In seven of these samples, total residual chlorine was not detected at a detection level of 0.02 mg/l. In the other three samples it was detected at 0.02 mg/l, 0.03 mg/l and 1.01 mg/l (some of these results were corrected for manganese interference, including the 1.01 mg/l result).

The permittee concluded that the primary source of the total residual chlorine (TRC) is potable water that is discharged into the storm sewer system directly upstream of the monitoring location and that the TRC levels in the potable water system typically average 0.65 mg/l.

<u>Outfall 008S</u>

The permittee monitoring for total residual chlorine 10 times during the study period. In four of these samples, total residual chlorine was not detected at a detection level of 0.02 mg/l. In the other six samples it was detected at 0.03 mg/l, 0.05 mg/l, 0.20, 0.27, 0.43, and 0.48 mg/l (some of these results were corrected for manganese interference, including the 0.43 and 0.48 mg/l results).

The permittee concluded that the primary source of the total residual chlorine (TRC) is potable water that passes through the Building 01 once through noncontact cooling water system. The TRC concentrations in the storm drain immediately downstream of the building's discharge consistently measure at levels above detection limits and at, if not slightly above, the TRC concentrations in the potable water distribution system.

Outfall 010S

The permittee monitoring for total residual chlorine 10 times during the study period. In six of these samples, total residual chlorine was not detected at a detection level of 0.02 mg/l. In the other four samples it was detected at 0.02 mg/l, 0.05 mg/l, 0.07, and 0.26 mg/l (some of these results were corrected for manganese interference, including the 0.26 mg/l result).

The permittee concluded that the primary source of the total residual chlorine (TRC) is cooling tower water discharging from consistent leaks from cooling tower pumps. In its report, the permittee stated that it had turned off the bleach feed at this cooling tower and planned to leave it off until a more permanent solution is installed.

Based on the effluent data provided for this outfall, total residual chlorine does demonstrate a reasonable potential to exceed water quality-based effluent limitations at each of these outfalls. Therefore, IDEM proposes to include limits for total residual chlorine at these outfalls.

By including water quality-based effluent limits (WQBELs) for total residual chlorine at these outfalls, IDEM will ensure protection of the aquatic life in the receiving stream and the permittee will have the flexibility to decide how it chooses to comply with these new limits.

These WQBELs are 0.016 mg/l as a monthly average and 0.038 mg/l as a daily maximum.

However, the calculated WQBELs for total residual chlorine are below the limit of quantitation. When a limit is less than the limit of quantitation, Indiana rules provide a mechanism for determining compliance with such limitations under 327 IAC 5-2-11.1(f). Under this rule, a measured effluent concentration less than the LOQ is in compliance with effluent limits that are less than the LOQ.

Since these are new water quality-based effluent limits, the permittee can request a schedule of compliance to meet these new limits under 327 IAC 5-2-12. If the agency considers compliance schedules for these new limits to be appropriate based on the information submitted by the permittee; IDEM would include compliance schedules for these new limits in the permit. The schedule of compliance would require compliance with these new limits as soon as possible and the compliance deadline would be established based on the information submitted by the permittee detailing the steps needed to comply with each of the new limits at each outfall; however, the duration of the compliance schedule could not exceed three years.

The permittee has requested the following compliance schedules:

- A compliance schedule of 12 months for the TRC limits at Outfall 006S with the following justification: "The cause of the TRC at detectable levels is twofold – potable water from a fire pump station and runoff from an area that receives windblown-mist from a cooling tower. Permittee needs 12 months to design and implement a solution to either treat or re-route the discharge."
- A compliance schedule of 36 months for the TRC limits at Outfall 008S with the following justification: "The cause of the TRC at detectable levels is once-through potable water used in the HVAC system in Bldg 01 administration building. In order to meet limits, Permittee would likely need to spend capital money to either re-route the discharge or re-design and replace the HVAC system in the building. Permittee needs 36 months to determine a path forward and then design and implement a solution."
- A compliance schedule of 12 months for the TRC limits at Outfall 010S with the following justification: "The cause of the TRC at detectable levels is leakage from cooling tower pumps. Permittee has already stopped using bleach at the cooling tower to reduce/remove residual chlorine from the discharge. Permittee needs 12 months to make necessary changes to the cooling tower and confirm the solution is effective."

Based on the information that has been submitted by the permittee, the proposed permit includes a compliance deadline of six (6) months for the TRC limits at each of these outfalls. If the permittee submits additional information during the public notice period to support the above-requested compliance schedules, IDEM will evaluate that information, and modify the compliance deadlines, if warranted.

3.3 Antibacksliding

Pursuant to 327 IAC 5-2-10(a)(11), unless an exception applies, a permit may not be renewed, reissued or modified to contain effluent limitations that are less stringent than the comparable effluent limitations in the previous permit. None of the limits included in this permit are less stringent than the comparable effluent limitations in the previous permit, therefore, backsliding is not an issue in accordance with 327 IAC 5-2-10(a)(11).

3.4 Antidegradation

Indiana's Antidegradation Standards and Implementation procedures are outlined in 327 IAC 2-1.3. The antidegradation standards established by 327 IAC 2-1.3-3 apply to all surface waters of the state. The permittee is prohibited from undertaking any deliberate action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC unless information is submitted to the commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality, or an antidegradation demonstration submitted and approved in accordance 327 IAC 2-1.3-5 and 2-1.3-6.

The total residual chlorine limits at Outfall 006S, 008S, and 010S are new limits; however, compliance with these limits will reduce the loading of total residual chlorine discharged to the Ohio River, since the permittee is currently discharging higher

concentrations of chlorine than allowed by the new limits. The NPDES permit does not propose to establish a new or increased loading of a regulated pollutant; therefore, the Antidegradation Implementation Procedures in 327 IAC 2-1.3-5 and 2-1.3-6 do not apply to the permitted discharge.

3.5 Spill Response and Reporting Requirement

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.(d), Part II.B.3.(c), and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedances that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedance to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

3.6 Permit Processing/Public Comment

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at https://www.in.gov/idem/public-notices/. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at https://www.in.gov/idem/resources/citizens-guide-to-idem/. A 30-day comment period is available to solicit input from interested parties, including the public.